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ANNUAL REPORT

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Monongahela navigation  
company, Pittsburgh

UNIVERSITY OF PITTSBURGH



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1892

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FIFTY-SECOND  
ANNUAL REPORT

OF 1891

BOARD OF MANAGERS

OF THE

Monongahela Navigation Co.

TO THE

Stockholders with Accompanying Documents.

PRESENTED JANUARY 14, 1892.

SMITH BROTHERS

FRANKLIN PRINTING OFFICE, 21 DIAMOND STREET, POWER HALL BUILDING, PITTSBURGH, PA.  
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President,

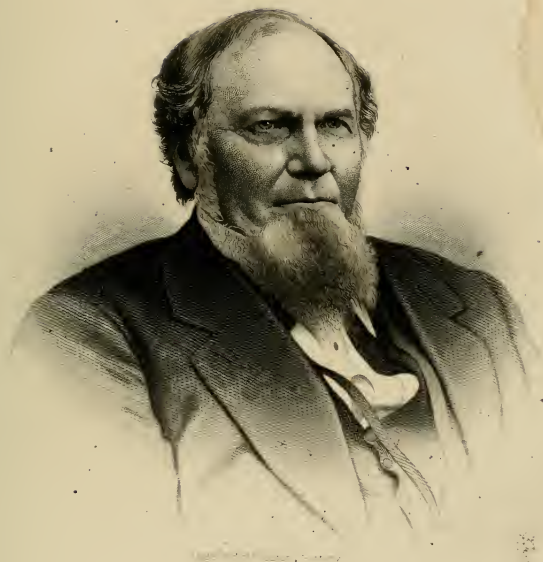
M. K. MOORHEAD.

Secretary and Treasurer,

WM. BAKEWELL.

Managers.

JOSEPH ALBREE,	GEORGE B. LOGAN,
ALEXANDER BRADLEY,	J. B. MURDOCH, M. D.
FELIX R. BRUNOT,	A. E. W. PAINTER,
ALLAN C. BAKEWELL,	GEO. SHIRAS, JR.
JAMES J. DONNELL,	B. L. WOOD, JR.



Respectfully yours  
J. M. W. McKim





## *ANNUAL REPORT.*

*To the Stockholders of the Monongahela Navigation Co.:*

The year which has just closed has been on the whole a very prosperous one for this Company, the only drawback being that during the first two months a strike of the coal miners so largely reduced the output of coal as seriously to impair the revenues of the company, from that source not only, but also had the effect of reducing the amount of tolls received on general freight, coal boats, etc. For the months of January and February the output of coal and slack was only 3,205,200 bushels as against 30,186,000 bushels during the corresponding period of the preceding year; and this comparison is unembarrassed by the condition of the river, as during the entire winters of both years the river was not closed for a single day by ice. The result of this falling off of the output of coal was that the toll receipts from all sources for the first two months of 1891 were \$11,728.11, as compared with \$63,678.56 in 1890, making a deficiency during that time of \$51,950.45. During the remaining ten months of the year, however, the total output of coal and slack was 17,592,900 bushels more, and the total toll receipts \$28,064.65 larger than the amounts during the same portions of the year 1890. The net result, therefore, is that the total decrease of tolls during the past year from the amount received during the year 1890 was only \$23,885.80.

It is, however, impossible to obtain any accurate idea of the substantial though gradual increase of the gross revenue derived from the works of the Company by any mere

comparison of the tolls received during any single year and that immediately preceding. So many causes may occur in a single year to increase or diminish abnormally the output of coal, that it would be equally mistaken to judge of the condition or prospects of the Company from the fact that in the year 1890 the tolls exceeded those of 1889 by the sum of \$83,379.57, as from the fact that the tolls for 1891 were less by \$23,885.80 than those of the preceding year.

A comparison of the following statement of tolls for the years 1881 to 1891 inclusive, show that the gross tolls for the past year, exceed the average of the five preceding years by \$22,696.20, and exceed the average of the preceding ten years by \$26,629.83.

Total tolls for following years:

1881,	-	\$216,908.10	1886,	-	\$255,341.83
1882,	-	271,991.25	1887,	-	200,157.68
1883,	-	279,023.56	1888,	-	272,798.57
1884,	-	207,202.97	1889,	-	209,229.93
1885,	-	215,675.31	1890,	-	292,609.50

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\$1,190,801.19

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\$1,230,137.51

Average tolls for years 1881 to 1885, - \$238,160.24

Average tolls for years 1881 to 1890, - 246,027.50

Tolls for year 1891, - - - - 268,723.70

The reports of our Engineer, Col. Thomas P. Roberts, and of our Superintendent of Repairs are so full as to render it unnecessary to enter into any details as to the work done during the past year, or as to the present condition of the improvement. The fact that the sum of \$45,008.60 has been judiciously and economically spent on repairs, is the best assurance of the care taken to keep up the works in the best condition and to add to the facilities which this Board are ever anxious to afford to those who

use the improvement. And in this connection, it is well to emphasize the fact, stated by our Engineer in his report, that a large amount of the money expended in this and previous years on the improvement has rather partaken of the nature of betterments than of repairs, to which latter account it has been charged.

We commend to our stockholders a careful perusal of the reports referred to, while that of the Cargo Inspector, with all its careful and minute details, gives a better idea of the traffic on the improvement than can well be expressed in words. The financial condition of the Company is exhibited in the Treasurer's report.

The only other subject to which we need advert is the status of the proceedings on the part of the United States Government to procure the ownership and control of our improvement.

As stated in our last report, the result of the appeal by the United States to the U. S. Circuit Court from the award of the viewers appointed to assess the value of Lock and Dam No. 7, resulted in a practical confirmation of the action of the viewers, by an award of \$209,000 made by the Court, which was only \$339.52 less than the amount awarded to the Company by the viewers. From this finding of the Circuit Court, this Company took an appeal to the Supreme Court of the United States, which has not yet come up for hearing in that tribunal, and probably will not for a couple of years.

No further action has been taken by Congress in relation to the works of this Company since the passage of the Act of 19th September, 1890, (River and Harbor Bill) quoted at length in our last annual report so far as it relates to this Company, which provides for further proceedings for the condemnation of Lock and Dam No. 6 whenever the proceedings for the condemnation of Lock and Dam No. 7 shall be finally determined.

No change has been made in the employees of the Company, who still continue to give satisfaction.

The Board of Managers have authorized the declaration of a dividend of four per cent. on the capital stock.

Respectfully submitted,

M. K. MOORHEAD,

*President.*

PITTSBURG, January 14, 1892.

## Report of the Superintendent of Repairs.

To M. K. MOORHEAD, Esq.

*President Monongahela Navigation Co.*

*Sir:*—The repairs on the improvement during the past season have not been unusually heavy, owing, in part, to the good condition of the work, absence of heavy ice last winter, and to a continuation of high water, with a succession of small freshets during the forepart of the summer.

Following is a detailed statement of the principal repairs at the several points:

Lock No. 1.—Coffer-dams were built above and below large Lock, entire chamber pumped out, Lock bottom cleaned out; new wooden quoins were put in wall, and new mitre sill put down at lower gates. A projection, left on the lower course of masonry when Lock was constructed, and which interfered with locking in low water, was cut away.

Lower gates were docked, wood-work repaired, new wickets and some new irons put on; three gates taken down in small Lock, four new wickets, some new irons and journal boxes used in repairing them; engine and machinery on walls all put in good order, and some repairs made on cribs above and below Locks. This work was commenced August 5th and completed September 2d.

Lock No. 2.—The work at this Lock was commenced September 3d, but, owing to interference by water and other causes, was not completed until October 12th. Coffer-dams were built above and below upper gates in small Lock, old gates taken out, water pumped out, new mitre sills put down. A leak under outside wall was stopped with cement, walls repaired, new wooden quoins and two new lock-gates made and put in. One gate in lower end of large Lock was taken down and repaired, machinery on walls put in order, new water wheel built outside Lock: crib below land wall, and ice-breaker above Lock, were renewed above water, and the sheeting on upper and lower slopes of dam repaired.

Lock No. 3.—The most of the force employed on repairs was working at this point from October 12th to October 31st, when the season seemed too far advanced to undertake certain work contemplated. But to put the large Lock in safe condition to run until another season, a coffer-dam had to be built above and below the iron gates, the water pumped out, and some repairs made to both gates. New wooden gates are now nearly completed, to replace the iron gates next season. The middle wall gate on upper end of small Lock was taken down, a new step put under it, and otherwise repaired. One new wicket was put in middle wall gate at lower end, some new shafting provided, and machinery on walls repaired.

Lock No. 4.—Two new gates were built and placed in upper end of old Lock, some cement grout run under floor to stop a leak out under lower gates. Machinery on wall was repaired, a coffer-dam put across upper end of new Lock and valve levers lengthened, and loose sheeting on dam fastened down.

Lock No. 5.—A coffer-dam was constructed across the upper end of this Lock. New wooden frames and new cast wickets were put in above upper gates, new steps put under both lower gates, and sheeting on dam fastened down.

Lock No. 6.—A coffer-dam was built across upper end of Lock, new opening chains put on wickets. The lower land-wall gate was repaired.

Lock No. 7.—It has not been necessary to do any work of consequence at this Lock during the season.

Two small flats and some skiffs have been built for use of Locks and repair purposes. A good deal of dredging was done during the season at Locks Nos. 1, 2 and 3. A large quantity of timber has been provided and now on hand for dam purposes, repairing cribs, and for lock-gates.

Respectfully submitted,

THOMAS MCGOWAN,

January 1st, 1892.

*Sup'l of Repairs.*

## REPORT OF ENGINEER.

PITTSBURG, January 12, 1892.

M. K. MOORHEAD, Esq.,

*President Monongahela Navigation Co.*

*Sir*—I herewith respectfully submit my report for the year 1891, and embrace with it information on some points derived from the reports of the Superintendent of Repairs and the reports of the Collectors at the several locks.

During the early part of the year there was much high water, and during the same period several considerable floods. The highest stage reached at Lock No. 4 (which is a government weather bureau station, and its records are taken as distinctly representative of the Monongahela, uninfluenced by back water from the Ohio), was 31.3 feet on January 3d. The depth reached was about 11 feet lower than the great flood of 1888 upon the Monongahela river. At Pittsburg the same height, viz: 31.3, was reached by the Ohio on February 18th, being about 2.5 feet lower than the unprecedented flood of 1884. It will be observed that the range of floods at Lock 4 is considerably greater than it is upon the Upper Ohio. The high waters, however, did but little or no damage at any of the Company's locks or dams, though the locks were submerged upon three different occasions during the year, viz: (Lock No. 1 report): January 2d to 4th locks closed to navigation one day 19 $\frac{3}{4}$  hours; February 10th and 11th, 23 hours; February 17th to 20th, three days 4 $\frac{1}{2}$  hours; making a total of five days and twenty-three hours that the lowermost locks were closed to navigation by reason of high water. Farther up the

river the time of the submergence of the locks was not so great, being at Lock 4 for the entire season, only two days and sixteen hours.

It is appropriate to remark in this connection that in times of floods the Company's locks can be operated just as long as the great majority of the steamers can pass under the various bridges now constructed across the river. A statement of the clearance beneath the different bridges was given in my report for the year 1887. Several new bridges have since that time been built, but the law requires them to conform to a standard not less in height than about 51 feet clearance at low water. During the early part of the year I was in correspondence with the late Col. Wm. E. Merrill, the U. S. Engineer charged with the regulation of bridges upon the Ohio and its navigable tributaries. Mention is made of the subject because of its importance to the interests of navigation. Three of the upper river bridges, within the limits of active coal mining operations, viz., the Monongahela City, and the railway and highway bridges, both of which latter named are at Brownsville, are several feet lower than the established standard, and with the rapid development now in progress of the coal fields above Monongahela City in Pool No. 4, the demand for the rectification of the evils resulting from low bridges is more strongly urged.

Throughout the entire year the river remained unfrozen, and therefore, there is nothing to report in the way of injuries to the dams, etc., due to ice, which upon several occasions in the past history of the Company has resulted in considerable destruction to the structural work of the dams.

During the year there was a depth of seven feet, or "coal barge water," upon 316 days in the lower pools, as compared with 337 days in 1890. During the fall, it is proper to state, the pools were temporarily raised about 20 inches by means of boards or brackets placed upon the



dams. Without these boards the record would have stood about 282 days. As it was, however, there was not, in fact, a day in the year, excepting during the brief flood periods, that coal barges could not have been moved out of the river had the depth below Dam No. 1 been sufficient to receive them.

In an ordinary season of rain fall, there would be no trouble at all experienced in maintaining even a greater depth in our pools by the means just referred to. This temporary increase in the pools was created in response to the requests of the coal operators, and appears to have given great satisfaction, for during the long period the Davis Island dam was up, coal barges, and on some occasions, coal boats drawing eight feet, were moved from the pools and made into fleets in the city harbor ready to be sent out with the first Ohio River freshets.

On the Ohio, from Pittsburg downward, there were 143 days when the depth was seven or more feet, as compared with 195 days of similar depth the previous year.

The prevailing high water of the spring and early part of summer, prevented the commencement of any submarine repair work about the locks and dams until late in July, when Lock No. 5 was closed for two days, 26th and 27th, during which time a coffer dam was constructed at the head of the lock to enable much needed repairs to be made to the wickets in the upper gate floor. With this late start it was found to be impossible to complete all the work contemplated for the season, but we were fortunate in finishing those most pressing and of most importance. A general overhauling of the sheeting of several of the dams would have been desirable; while the boards were up on them some work was done, and their general condition is such as to give no cause for alarm. As has been said of our dams, they seem never to decay, while age makes their foundations only the more secure; that they are well built and well guarded is proved

by their successful maintenance for so many decades with very few serious mishaps.

For a detailed statement of the repair work during the year, reference may be had to the report of the Superintendent of Repairs. It would occupy much space to enter upon a description of the interesting operations conducted by the Company's crews of experienced repair men. Their work includes the construction of lock gates, involving first-class joinery work, blacksmithing, etc., also crib construction, coffer-dam work, rigging and management of derricks, pile drivers, steam pumps, etc., the three pumps belonging to the Company having a combined capacity of rather more than 12,000 gallons per minute. Many of the repairs to lock gate machinery, turbines, water wheels, engines, etc., are made by the Company's employees, some of them requiring skill, being often attended to by the hands employed by the collectors at the several locks, and the Company is fortunate in having so many trustworthy and competent men in its employ.

With the increased demand for coal in the Southern and Western market, and consequent increased usage of our locks, it has been found necessary to strengthen their working parts. In a business of about 4,000,000 tons per year, delays are fraught with more consequence than formerly, and it has been the constant aim of the Company for a number of years past to have the gates, wickets, mitre sills, and operating machinery of the strongest material and best construction regardless of cost. It thus comes that what we term repair work frequently amounts to a betterment by the replacement of original construction with better material and workmanship. As an instance, a few years ago we built a stone abutment costing \$6,000 in the place of a timber structure which cost about \$1,200. We have placed aprons below dams, have submerged cribs parallel with lock walls, have rebuilt portions of dams employing three times the quantities of material which entered into their original

construction, in all "betterments," in value amounting to fully \$300,000, all of which has been charged to repair accounts.

During the season the large lock at Dam No. 1, constructed in 1848, was pumped out in order to put in new mitre sills at the lower end of the chamber. This lock had not been pumped out its entire length since its original construction a period of 43 years. Its bottom of smooth solid rock was disclosed, and it is a great satisfaction to report that the masonry below water was found to be without a blemish, and in every respect as perfect as when it left the contractor's hands. The walls were built with a considerable batter from the base to the height of four feet, and advantage was taken of the occasion to cut them down more nearly to the vertical, so that the deepest boats at the lowest navigable stage can pass through without fear of touching the battered portions of the walls; no actual damage had ever been reported from this cause, but the work was done as a measure of precaution.

At Lock No. 2 considerable work was necessary in cutting down the walls at the upper end of the small lock to receive new and heavier gates. The rebuilding of a crib below the land wall of the large lock was also a much needed improvement at this point. I have to report that the portion of the middle wall built here last year seems to stand perfectly. Some further work upon the floor of the large lock and about the crib below the middle wall was left over for the coming season.

The repair work completed and projected at Lock No. 3, is detailed very fully in the report of the Superintendent of Repairs.

Some little annoyance, too, but no serious interruption of the coal trade was experienced by the necessity which arose for closing for a time, one or another of the double locks at Dams Nos. 1, 2 and 3, but throughout the season

the most pleasant relations existed between the employees of the Company and its patrons.

I am indebted to the U. S. Weather Bureau Office in Pittsburg for the river and Davis Island dam records which are made a part of this report.

Respectfully submitted.

THOMAS P. ROBERTS,

*Chief Engineer.*

### DAVIS ISLAND DAM.

*Manceuvres for 1891.*

LOWERED.	RAISED.
September 7th, 1890.	May 9th, 1891.
June 7th, 1891.	June 16th, 1891.
June 19th, 1891.	June 30th, 1891.
July 8th, 1891.	July 16th, 1891.
July 24th, 1891.	August 10th, 1891.
August 24th, 1891.	September 2d, 1891.
November 23th, 1891.	
Total Days, 220.	Total Days, 145.

# Daily Record of the Stage of the Rivers at Lock No. 4 and at Pittsburgh for the year 1891.

TIME OF OBSERVATION 8 A. M. DAILY.

FROM THE U. S. WEATHER BUREAU REPORTS, PITTSBURG, PA.

DAY.	JAN.		FEB.		MARCH.		APRIL.		MAY.		JUNE.		DAY.	JULY.		AUGUST.		SEPT.		OCT.		NOV.		DEC.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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1	9.0	5.4	15.4	15.2	9.7	9.6	11.8	11.0	6.7	2.8	10.8	8.2	1	6.5	4.2	5.5	4.8	4.8	3.2	6.1	6.5	5.2	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	6.2	9.8	8.0	

Rainfall, including snow melted, at Pittsburg for 1891, 38.28 inches.

# REPORT OF CARGO INSPECTOR.

## STATEMENT OF THE BUSINESS

ON THE

MONONGAHELA SLACKWATER DURING THE YEAR ENDING DEC. 31, 1891.

RECEIPTS FROM					TOTAL.
Coal and Slack,	....	....	....	....	\$185,189.37
Coke,	....	....	....	....	603.38
Freight, Empty Crafts, Steamboats, Timber, &c,	....	....	....	....	74,637.40
Passengers,	....	....	....	....	8,293.55
Total,	....	....	....	....	\$268,723.70

### RECEIPTS AT THE SEVERAL LOCKS.

Lock No. 1,	....	....	....	....	\$58,342.83
" 2,	....	....	....	....	63,921.74
" 3,	....	....	....	....	51,260.29
" 4,	....	....	....	....	89,257.97
" 5,	....	....	....	....	1,117.94
" 6,	....	....	....	....	908.27
" 7,	....	....	....	....	3,824.66
Total,	....	....	....	....	\$268,723.70

### TRADE OF POOL No. 1.

Tow Boats,	....	....	....	....	5,501
Crafts,	....	....	....	....	7,808
Total,	....	....	....	....	13,309
Number of Clearances Eastward,	....	....	....	....	2,732
" " Westward,	....	....	....	....	6,372
Total number of Clearances issued in 1891,	....	....	....	....	9,104

### COMPARATIVE STATEMENT OF TOLL RECEIPTS FOR THE YEARS 1890 AND 1891.

	Coal.	Coke.	Freight, &c.	Passengers	Total.
Tolls for 1890,	\$204,233.64	\$1416.68	\$78,695.33	\$8,263.85	\$292,609.50
Tolls for 1891,	185,189.37	603.38	74,637.40	8,293.55	268,723.70
Increase for 1891,				\$29.70	
Decrease for 1891,	\$19,044.27	\$813.30	\$4,057.93		\$23,885.80

## STATEMENT

OF

*Freight shipped East and West on the Monongahela Slackwater during  
the Year ending December 31st, 1891.*

EASTWARD.	WESTWARD.
Whiskey, bbls. - - - 291	Sand, bushels, - - - 1,492,000
Lumber, feet, - - - 8,487,371	Whiskey, bbls. - - - 4,319
Timber, feet, - - - 1,690,400	Stone, perches, - - - 4,595
Pig Iron, tons, - - - 3	Staves, number, - - - 31,400
Fire Clay, tons, - - - 6,193	Posts, number, - - - 98,200
Pit Posts, number, - - - 326,220	Sheep, number, - - - 2,688
Sheep, number, - - - 100	Lumber, feet, - - - 1,867,511
Horses and Cattle, number, 746	Timber, feet, - - - 455,430
Hogs, number, - - - 12	Steel rails, tons, - - - 11,422
Staves, number, - - - 12,000	Hogs, number, - - - 3,008
Classified Freight, lbs. 34,935,649	Horses and Cattle, number, 820
Brick, number, - - - 2,632,445	Railroad Ties, number, 1,600
	Classified Freight, lbs. 8,557,029

## PASSENGER RETURNS

OF THE

*Several Boats Navigating the Monongahela River in 1891.*

BOATS.	Passengers.		No. of Locks.	David- son's.	Geneva.	Total.
	Through.	Way.				
Adam Jacobs,	6,219	6,344	13,931	3,323	4,546	\$2,561.10
James G. Blaine,	6,483	6,347	13,983	3,477	4,630	2,632.60
Germania,	3,915	4,431	9,583	1,768	2,952	1,645.75
Elizabeth,		2,471	4,522			226.10
Excursion Boats,		12,534	24,560			1,228.00
	16,617	32,127	66,579	8,568	12,128	\$8,203.55

*Passenger Business for 1890 and 1891 Compared.*

	1890.	1891.	Difference.
Thro' Davidson's & Geneva Passengers	37,915	37,313	602 dec.
Way Passengers, . . . . .	31,828	32,127	299 inc.
Total, . . . . .	69,743	69,440	303 dec.
Tolls on Through Passengers, . . . .	\$5,116.65	\$4,964.60	\$152.05 dec.
Tolls on Way Passengers, . . . . .	3,147.20	3,328.95	181.75 inc.
Total, . . . . .	\$8,263.85	\$8,293.55	\$29.70 inc.

*Comparative Receipts in 1890 and 1891.*

MONTHS.	1890.	1891.
January, . . . . .	\$35,359.85	\$ 7,895.65
February, . . . . .	28,318.71	3,832.46
March, . . . . .	27,327.15	21,369.34
April, . . . . .	33,279.21	39,475.82
May, . . . . .	22,945.58	29,340.26
June, . . . . .	19,363.50	23,403.33
July, . . . . .	14,915.05	31,009.47
August, . . . . .	11,242.87	17,385.68
September, . . . . .	20,943.64	19,241.94
October, . . . . .	30,880.63	22,795.23
November, . . . . .	24,890.62	17,716.39
December, . . . . .	23,142.69	35,258.13
Total, . . . . .	\$292,609.50	\$268,723.70



## STATEMENT

*In Bushels of Coal and Slack shipped from the several Pools of the  
Monongahela Slackwater during the year ending Dec. 31, 1891.*

MONTHS.	Pool No. 1.	Pool No. 2.	Pool No. 3.	Pool No. 4.	Total.
January, ..	594,500	1,106,000	439,500	377,200	2,517,200
February, ..	106,500	266,500	10,200	304,800	688,000
March, ..	1,299,500	2,982,000	2,165,300	2,763,000	9,209,800
April, ..	2,132,000	5,808,000	3,783,300	5,514,100	17,237,400
May, ..	1,714,000	4,084,000	3,123,500	4,325,100	13,246,600
June, ..	1,927,000	2,410,500	1,340,000	4,000,700	9,678,200
July, ..	953,000	3,762,500	2,412,300	4,279,800	11,407,600
August, ..	294,000	1,751,000	1,396,000	2,478,000	5,919,000
September, ..	505,500	1,638,500	1,121,000	3,102,500	6,367,500
October, ..	647,800	2,404,500	1,940,200	4,144,600	9,137,100
November, ..	1,206,400	1,983,500	1,077,600	2,752,000	7,019,500
December, ..	1,938,500	4,350,000	2,894,000	5,304,300	14,486,800
Total, ..	13,318,700	32,547,000	21,702,900	39,346,100	106,914,700

### *Coke Business for 1891.*

Bushels from Pool No. 1, ..	804,500	\$603.38
Total number bushels Coke, ..	804,500	\$603.38
Bushels Coal, ..	106,914,700	\$185,189.37
Bushels Coke, ..	804,500	603.38
Total, ..	107,719,200	\$185,792.75

### *Comparison of the Coal and Coke Business for 1890 and 1891.*

	1890.	1891.	Decrease.
Total number of Bushels, ..	118,061,100	107,719,200	10,341,900
Total Tolls on Coal and Coke, ..	\$205,650.32	\$185,792.75	\$19,857.57

I certify the foregoing to be correct.

PITTSBURG, January 14th, 1892.

W. P. WOOD,

*Cargo Inspector.*

# Report of the Treasurer of the Monongahela Navigation Company.

DR.

## BALANCE SHEET, JANUARY 1, 1892.

CR.

Construction, .....	\$1,916,753.80	Capital Stock, .....	\$1,647,900.00
Cash in Bank, .....	52,054.07	Scrap, Convertible into Stock, .....	2,808.50
Toll Bills, .....	32,420.81	Mortgage Bonds, .....	250,000.00
W. P. Wood, Cargo Inspector, .....	7,739.93	Contingent Fund, .....	11,000.00
Bonds of Monongahela Navigation Co., .....	12,000.00	Undistributed Stock, .....	5,002.31
Repair Boat, .....	19,036.70	Suspended Account, .....	2,717.73
Real Estate, .....	2,362.03	State Treasurer, .....	8,433.16
Mortgage, .....	5,000.00	Dividends Unpaid, .....	234.00
		Coupons Unpaid, .....	6,130.00
		Profit and Loss, .....	113,105.64
	\$2,047,367.34		\$2,047,367.34

DR.

## PROFIT AND LOSS ACCOUNT.

CR.

Expenses, .....	\$47,743.72	Balance, January, 1891, .....	\$90,235.74
Repairs, .....	15,008.60	Tolls, .....	268,723.70
Tax on Capital Stock, .....	7,375.68	Amount applied from Undistributed Stock to Stock Distribution, .....	16,321.50
Tax on Gross Receipts, .....	2,067.78	Received for use of Flat Boats, .....	162.00
Tax on Loans, .....	664.05	" amount of old Toll Bills, .....	12.03
Coupons, .....	11,900.00		
Interest, .....	76.00		
Dividends in Cash, .....	131,192.00		
Stock Distribution, .....	16,321.50		
Balance, January, 1892, .....	113,105.64		
	\$375,454.97		\$375,454.97

ABSTRACT OF CASH ACCOUNT.

CR.

DR.

Balance, January, 1891,.....	\$ 53,056.58	Expenses,.....	\$ 47,743.72
Tolls Received in Cash,.....	60,629.01	Repairs,.....	45,008.60
Toll Bills Collected,.....	197,801.16	State Taxes,.....	11,420.53
Received for use of Flats,.....	162.00	Dividends Paid,.....	133,643.50
Received on old Toll Bill which had been written off.....	12.03	Coupons Paid,.....	20,800.00
		Interest Paid,.....	76.00
		Cargo Inspector,.....	944.36
		Balance in Bank, January, 1892,.....	52,054.07
	\$311,690.78		\$311,690.78

I hereby certify that the foregoing Balance Sheet and Statements are from the books of the Monongahela Navigation Company and are correct.

JANUARY 1st, 1892.

W. BAKEWELL,  
*Treasurer*

## ANNUAL MEETING OF STOCKHOLDERS.

PITTSBURG, January 14th, 1892.

The annual meeting of the Stockholders of the Company was this day held at the office of the Company, No. 8 Wood Street, at 2 P. M.

On motion, Thomas A. Parke was elected Chairman, and W. B. Corwin Secretary of the meeting. Mr. Bakewell, Secretary of the Company, presented the reports of the President and Managers, and the reports of the Treasurer, Cargo Inspector, Chief Engineer and Superintendent of Repairs. On motion it was resolved that the reports be received and printed as usual for use of the Stockholders.

Mr. A. C. Bakewell exhibited to the meeting an engraved portrait of the late Gen. J. K. Moorhead, formerly President of the Company, and moved that the Secretary of the Company be instructed to procure a sufficient number of copies thereof to attach one to each copy of the annual report, which motion was adopted.

On motion, resolved that the meeting proceed to the election of officers and managers for the coming year.

Thos. A. Parke, Chairman of the meeting, was chosen Judge of Election, and George E. Painter and A. P. Murdoch, tellers.

The election by ballot was then proceeded with, and after voting had ceased for some time it was resolved that the polls be closed, and the tellers were requested to give the result.

The tellers announced that the following named persons were elected, each having received 21,141 votes, being all the votes cast.

President—M. K. Moorhead.

Secretary and Treasurer—William Bakewell.

Managers—Joseph Albree, Alexander Bradley, Felix R. Brunot, Allan C. Bakewell, James J. Donnell, George B. Logan, J. B. Murdoch, M. D., A. E. W. Painter, George Shiras, Jr., and B. L. Wood, Jr.

On motion, the meeting adjourned.

W. B. CORWIN,

*Secretary.*

THOMAS A. PARKER,

*Chairman.*









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